Implementation and Measurement of Strategies for the Unpredictable: Improvisation and Revising the Blame Game[i]

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I have always resisted the idea that resilience can be measured in any system. That is because of my firm belief that resilience is most useful as a strategy for dealing with risks you cannot prevent or predict. But I can't deny the need that many people feel to measure it, and to some extent, I understand the need. It is very human to want to control (or at least minimize) the bad things that can happen. Nobody wants to be at the helm of an organization when something unpredicted (and bad) happens because the first thing people will do is claim that it was predictable and preventable. The Blame Game happens.

The world is getting so interconnected and complex that unpredicted (and unpredictable) things happen more often. Scott Snook (U.S. Army, ret.) of the Harvard Business School has taken an in-depth look at a tragic accident in the immediate aftermath of the Persian Gulf War in which two U.S. fighter planes shot down a U.S. helicopter. He asks why nobody predicted the problems that led to this accident *before* it happened, and concludes:

> Part of the answer lies in our inherent limitations as information processors. Part of the answer lies in our linear deterministic approach to causality. Part of the answer lies in the inherent unpredictability of events in complex organizations.

And yet, many organizations want a formula that will prescribe how they will respond in lock-step to all challenges. We would like it to be inexpensive, easy to implement, and compatible with our current operations. Something we can just bolt on to our current systems, tick a box, and move on. Every year we can measure some things and pronounce ourselves resilient. If that is your goal, there are many fine consultants who will sell it to you. And it works pretty well for risks you can predict and measure the potential impact. The insurance industry has gotten pretty good at this type of

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[ii] Longstaff is an analyst and educator currently specializing in managing and regulating systems with high uncertainty. Her most recent work is a multidisciplinary analysis of the concept of "resilience" and its implications for business planning and public policy planning for environments with high uncertainty. She received funding from the National Science Foundation to lead a cross-disciplinary study of resilience. She pursued this work further as a Senior Visiting Scholar at Oxford University in 2010-11. She has published extensively on topics related to resilience and security. She has been invited to speak on these topics to groups all over the world.

measurement over the last several hundred years. But the recent interest in the concept of resilience stems in part, I believe, from an often unarticulated belief that Professor Snook is right: some things are just not predictable, and we need to get ready for them.

I think the concept of resilience is a lot like the concept of safety'. We don't measure safety, we measure the things we think will make something safe. Let's take airplanes for example. Safety is ultimately measured by the number of flights everyone walks away from. For dangers that we can predict it is possible to devise things we can count: the tensile strength of the bolts that hold things together, the fuel it will take to overcome headwinds, the redundancy of all critical systems, the training hours of pilots and crew. All these things make the flight safer in cases of challenges we know are likely or possible. For challenges nobody predicted, few veterans of the airline industry will deny that flexibility and the ability to improvise have saved many lives.

For unpredicted challenges, the things that may be the most important are the most difficult to measure. But they can become part of a resilience plan and measurement will use slightly different tools. I will concentrate on two interrelated resilience strategies for unpredictable challenges: improvisation and revising the Blame Game. Both are mentioned in the IRGC Guidelines for Emerging Risk Governance. I will suggest that they can be measured by testing.

Improvisation

Improvisation is a resilience strategy for dealing with unanticipated challenges NOW by taking resources that are immediately available and reorganizing them in new ways in order to continue an important function. It is generally employed when plan A is not working, and even Plan B (e.g., the Emergency Plan) is not effective for the unexpected challenge. It is, in effect, Plan C. Good improvisation needs accurate, real-time information about what the various parts of the system are doing. It requires predetermined rules that grant *permission* to ignore the Plan A rules and Plan B rules and reallocated resources temporarily when certain things happen. It requires a clear understanding of what is the most important goal (e.g., human safety, avoiding damage to critical assets, etc.). Carefully implemented improvisation rules are thus a resilience strategy that allows an organization to bounce back from an unpredicted challenge.

Sometimes flexibility and improvisation are not cherished as strategic assets for dealing with high uncertainty. Instead, they are punished as failure to follow Standard Operating Procedure – particularly if the improvised solution does not work. And sometimes people should be punished if they did not follow the prearranged constraints on improvisation or if they pursued the wrong goal, such as corruption or self-enrichment.

The blame game

Thus, improvisation requires that an organization changes how it allocates blame when bad things happen. Eric Hollnagel has studied reliability in many critical technical and human systems. He has written extensively on the role that blame plays in these systems. He suggests a balance between accountability and learning. He admits that setting out all unacceptable behavior in advance (particularly in systems with high uncertainty) is not possible and so there must be a *mechanism* that is perceived as relevant and fair for making these decisions. He suggests building a "Just Culture" that

balances concerns for fairness with organizational cohesion, loyalty, and safety. This balance will be different in each organization, and the balance will probably have to be re-examined periodically. In many organizations, it will make sense for the specifics of this new culture to emerge over time as it adapts to changing uncertainties. Imposing something from the top down that does not allow for adaptability will only make the organization more brittle and liable to things like failures that cascade throughout the system.

Measurement

So, how would you measure the effectiveness of improvisation and revising the Blame Game? Since both require changes in how things get done, some organizational learning (including the dreaded training meetings) for resetting and fine-tuning corporate culture is probably in order and the acceptance of these changes can be measured with surveys. But training and surveys need to be backed up by clear examples of organizational commitment to the changes – deeds, not just words. For example, someone who has improvised but was unsuccessful is celebrated for a good try.

In addition, the ability of the organization (and the people in it) to implement these two strategies can be tested by conducting simulations of scenarios *that nobody thinks will happen*. It must be a situation where Plan A and Plan B will not get them to the most important goal. Success can be measured by the ability of participants to communicate accurate, real-time information and to suggest new ways to put resources together. Did they know what the most important goal is? Did they know what resources are available?

Success should NEVER be measured by whether the improvised solution actually worked. These are often risky situations where no one has ever gone before, and any form of Blame Game will make improvisation in a real challenge much less likely. Both a simulation and an actual unanticipated challenge are opportunities to learn, and anything that stops the flow of information about what really happened is a tragic loss of important information.

But the measurement of these two strategies will be pointless unless there is a change in the organization's attitude toward uncertainty. People who believe that things will happen just like they always have are more likely to lay blame when there are unexpected bad outcomes. They believe these outcomes must have been caused by a failure to get the right data and apply the right rules. Their response to a bad surprise is often to impose more constraints (more rules) on the system, thus ironically, making it more complex and adding uncertainty. If you can get everyone comfortable with the fact that new dangers (and opportunities!) are likely, you can devise strategies that help people feel confident that they can deal with them. And the more you test the strategies and reinforce good tries, the more confident and resilient the organization will become.

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